

Table 1. 2003 Summary Statistics

| Item | Value | U.S. Rank |
|---|------------|-----------|
| Arizona | | |
| NERC Region(s)..... | | WECC |
| Primary Energy Source | | Coal |
| Net Summer Capability (megawatts)..... | 23,510 | 15 |
| Electric Utilities | 16,193 | 15 |
| Independent Power Producers & Combined Heat and Power | 7,317 | 14 |
| Net Generation (megawatthours)..... | 94,396,218 | 16 |
| Electric Utilities | 80,348,246 | 15 |
| Independent Power Producers & Combined Heat and Power | 14,047,973 | 18 |
| Emissions (thousand metric tons) | | |
| Sulfur Dioxide | 63 | 31 |
| Nitrogen Oxide..... | 80 | 22 |
| Carbon Dioxide..... | 46,655 | 20 |
| Sulfur Dioxide (lbs/MWh)..... | 1.5 | 44 |
| Nitrogen Oxide (lbs/MWh)..... | 1.9 | 36 |
| Carbon Dioxide (lbs/MWh)..... | 1,090 | 38 |
| Total Retail Sales (megawatthours)..... | 64,079,560 | 23 |
| Full Service Provider Sales (megawatthours)..... | 64,079,560 | 22 |
| Direct Use (megawatthours)..... | 373,797 | 39 |
| Average Retail Price (cents/kWh)..... | 7.34 | 17 |

See footnotes at end of tables.

Table 2. Ten Largest Plants by Generating Capability, 2003

| Plant | Energy Sources | Operating Company | Net Summer Capability (MW) |
|-------------------------------------|----------------------|-------------------------------|----------------------------|
| Arizona | | | |
| 1. Palo Verde..... | Nuclear | Arizona Public Service Co | 3,825 |
| 2. Navajo..... | Petroleum, Coal | Salt River Proj Ag I & P Dist | 2,250 |
| 3. Gila River Power Station..... | Other, Gas | Panda Gila River LP | 2,060 |
| 4. Glen Canyon Dam..... | Hydro | U S Bureau of Reclamation | 1,296 |
| 5. Mesquite Generating Station..... | Gas | Sempra Energy Resources | 1,073 |
| 6. Hoover Dam..... | Hydro | U S Bureau of Reclamation | 1,040 |
| 7. Cholla..... | Gas, Petroleum, Coal | Arizona Public Service Co | 995 |
| 8. West Phoenix..... | Gas | Arizona Public Service Co | 939 |
| 9. Redhawk | Gas | Pinnacle West Energy | 918 |
| 10. Springerville..... | Petroleum, Coal | Tucson Electric Power Co | 805 |

See footnotes at end of tables.

Table 3. Top Five Providers of Retail Electricity, 2003
(Megawatthours)

| Entity | Ownership Type | All Sectors | Residential | Commercial | Industrial | Transportation |
|---|----------------|-------------|-------------|------------|------------|----------------|
| Arizona | | | | | | |
| 1. Arizona Public Service Co..... | Investor-Owned | 24,562,305 | 11,147,195 | 11,066,410 | 2,348,700 | 0 |
| 2. Salt River Proj Ag I & P Dist..... | Public | 23,509,147 | 11,091,296 | 9,515,561 | 2,902,290 | 0 |
| 3. Tucson Electric Power Co..... | Investor-Owned | 8,229,552 | 3,370,540 | 1,928,205 | 2,930,807 | 0 |
| 4. Morenci Water & Electric Co..... | Investor-Owned | 1,628,981 | 10,170 | 14,193 | 1,604,618 | 0 |
| 5. Western Area Power Administrati..... | Federal | 648,613 | 0 | 648,613 | 0 | 0 |
| Total Sales, Top Five Providers..... | | 58,578,598 | 25,619,201 | 23,172,982 | 9,786,415 | 0 |
| Percent of Total State Sales..... | | 91 | 92 | 91 | 90 | 0 |

See footnotes at end of tables.

Table 4. Electric Power Industry Net Summer Capability by Primary Energy Source, 1994, 1998, and 2003
(Megawatts)

| Energy Source | 1994 | 1998 | 2003 | Annual Growth Rate 1994-2003 (Percent) | Percentage Share | | |
|--|--------|--------|--------|---|------------------|-------|-------|
| | | | | | 1994 | 1998 | 2003 |
| Arizona | | | | | | | |
| Electric Utilities..... | 15,098 | 15,084 | 16,193 | 0.8 | 99.0 | 98.9 | 68.9 |
| Coal..... | 5,119 | 5,286 | 5,336 | .5 | 33.5 | 34.7 | 22.7 |
| Petroleum..... | 97 | 85 | 108 | 1.2 | .6 | .6 | .5 |
| Natural Gas..... | 233 | 35 | 1,003 | 17.6 | 1.5 | .2 | 4.3 |
| Dual Fired..... | 3,006 | 3,052 | 2,988 | −1 | 19.7 | 20.0 | 12.7 |
| Nuclear | 3,810 | 3,733 | 3,825 | * | 25.0 | 24.5 | 16.3 |
| Hydroelectric | 2,648 | 2,708 | 2,706 | .2 | 17.4 | 17.8 | 11.5 |
| Other Renewables | 0 | 0 | 11 | NM | .0 | .0 | * |
| Pumped Storage | 185 | 185 | 216 | 1.7 | 1.2 | 1.2 | .9 |
| Independent Power Producers and Combined | | | | | | | |
| Heat and Power | 161 | 170 | 7,317 | 52.8 | 1.1 | 1.1 | 31.1 |
| Coal..... | 51 | 65 | 68 | 3.2 | .3 | .4 | .3 |
| Petroleum..... | 5 | 8 | 4 | −2.4 | * | .1 | * |
| Natural Gas..... | 19 | 57 | 7,232 | 93.5 | .1 | .4 | 30.8 |
| Dual Fired..... | 86 | 40 | 13 | −18.9 | .6 | .3 | .1 |
| Total Electric Industry..... | 15,258 | 15,253 | 23,510 | 4.9 | 100.0 | 100.0 | 100.0 |
| Coal..... | 5,170 | 5,351 | 5,404 | .5 | 33.9 | 35.1 | 23.0 |
| Petroleum..... | 102 | 93 | 112 | 1.0 | .7 | .6 | .5 |
| Natural Gas..... | 251 | 91 | 8,235 | 47.4 | 1.6 | .6 | 35.0 |
| Dual Fired..... | 3,092 | 3,092 | 3,001 | −.3 | 20.3 | 20.3 | 12.8 |
| Nuclear | 3,810 | 3,733 | 3,825 | * | 25.0 | 24.5 | 16.3 |
| Hydroelectric | 2,648 | 2,708 | 2,706 | .2 | 17.4 | 17.8 | 11.5 |
| Other Renewables | 0 | 0 | 11 | NM | .0 | .0 | * |
| Pumped Storage | 185 | 185 | 216 | 1.7 | 1.2 | 1.2 | .9 |

See footnotes at end of tables.

Table 5. Electric Power Industry Generation by Primary Energy Source, 1994, 1998, and 2003
(Megawatthours)

| Energy Source | 1994 | 1998 | 2003 | Annual Growth Rate 1994-2003 (Percent) | Percentage Share | | |
|--|------------|------------|------------|---|------------------|-------|-------|
| | | | | | 1994 | 1998 | 2003 |
| Arizona | | | | | | | |
| Electric Utilities..... | 71,203,728 | 81,299,241 | 80,348,246 | 1.4 | 99.0 | 99.0 | 85.1 |
| Coal..... | 38,072,165 | 36,225,373 | 37,739,559 | -1 | 52.9 | 44.1 | 40.0 |
| Petroleum..... | 128,437 | 61,227 | 46,706 | -10.6 | .2 | .1 | * |
| Natural Gas..... | 2,162,370 | 3,472,416 | 6,580,927 | 13.2 | 3.0 | 4.2 | 7.0 |
| Nuclear..... | 23,170,894 | 30,301,045 | 28,581,053 | 2.4 | 32.2 | 36.9 | 30.3 |
| Hydroelectric..... | 7,365,425 | 10,970,189 | 7,074,984 | -4 | 10.2 | 13.4 | 7.5 |
| Other Renewables..... | 0 | 0 | 41,426 | NM | .0 | .0 | * |
| Pumped Storage..... | 304,437 | 268,991 | 283,590 | -8 | .4 | .3 | .3 |
| Independent Power Producers and Combined | | | | | | | |
| Heat and Power..... | 730,768 | 795,831 | 14,047,972 | 38.9 | 1.0 | 1.0 | 14.9 |
| Coal..... | 270,965 | 338,054 | 351,850 | 2.9 | .4 | .4 | .4 |
| Petroleum..... | 23,733 | 1,989 | 1,970 | -24.2 | * | * | * |
| Natural Gas..... | 321,165 | 455,788 | 12,351,714 | 50.0 | .4 | .6 | 13.1 |
| Other Renewables..... | 114,905 | 0 | 3,843 | -31.4 | .2 | .0 | * |
| Other..... | 0 | 0 | 1,338,595 | NM | .0 | .0 | 1.4 |
| Total Electric Industry..... | 71,934,496 | 82,095,072 | 94,396,218 | 3.1 | 100.0 | 100.0 | 100.0 |
| Coal..... | 38,343,130 | 36,563,427 | 38,091,409 | -1 | 53.3 | 44.5 | 40.4 |
| Petroleum..... | 152,170 | 63,216 | 48,676 | -11.9 | .2 | .1 | .1 |
| Natural Gas..... | 2,483,535 | 3,928,204 | 18,932,641 | 25.3 | 3.5 | 4.8 | 20.1 |
| Nuclear..... | 23,170,894 | 30,301,045 | 28,581,053 | 2.4 | 32.2 | 36.9 | 30.3 |
| Hydroelectric..... | 7,365,425 | 10,970,189 | 7,074,984 | -4 | 10.2 | 13.4 | 7.5 |
| Other Renewables..... | 114,905 | 0 | 45,269 | -9.8 | .2 | .0 | * |
| Pumped Storage..... | 304,437 | 268,991 | 283,590 | -8 | .4 | .3 | .3 |
| Other..... | 0 | 0 | 1,338,595 | NM | .0 | .0 | 1.4 |

See footnotes at end of tables.

Table 6. Electric Power Delivered Fuel Prices for Coal, Petroleum, and Natural Gas, 1994, 1998, and 2003

| Fuel, Quality | 1994 | 1998 | 2003 | Annual Growth Rate 1994-2003 (Percent) |
|--|---------|---------|---------|--|
| Arizona | | | | |
| Coal (cents per million Btu)..... | 137.4 | 133.1 | W | W |
| Average heat value (Btu per pound)..... | 10,281 | 10,186 | 10,081 | −0.2 |
| Average sulfur Content (percent)..... | .5 | .5 | .6 | 2.5 |
| Petroleum (cents per million Btu)..... | 428.1 | 429.0 | W | W |
| Average heat value (Btu per gallon)..... | 142,149 | 138,851 | 139,550 | −.2 |
| Average sulfur Content (percent)..... | .3 | .1 | .2 | −5.3 |
| Natural Gas (cents per million Btu)..... | 217.7 | 239.1 | 506.1 | 9.8 |
| Average heat value (Btu per cubic foot)..... | 1,023 | 1,014 | 1,021 | * |

See footnotes at end of tables.

Table 7. Electric Power Industry Emissions Estimates, 1994, 1998, and 2003
(Thousand Metric Tons)

| Emission Type | 1994 | 1998 | 2003 | Annual Growth Rate 1994-2003 (Percent) |
|-------------------|--------|--------|--------|--|
| Arizona | | | | |
| Sulfur Dioxide | | | | |
| Coal | 129 | 90 | 63 | -7.7 |
| Petroleum | 1 | * | * | -32.4 |
| Natural Gas | * | * | * | 25.2 |
| Other | 1 | — | — | NM |
| Total | 130 | 90 | 63 | -7.7 |
| Nitrogen Oxide | | | | |
| Coal | 162 | 77 | 74 | -8.4 |
| Petroleum | * | * | * | -26.9 |
| Gas | 3 | 5 | 6 | 6.3 |
| Other | * | — | * | -19.8 |
| Total | 166 | 82 | 80 | -7.8 |
| Carbon Dioxide | | | | |
| Coal | 36,564 | 35,497 | 37,544 | .3 |
| Petroleum | 128 | 51 | 43 | -11.5 |
| Gas | 1,443 | 2,289 | 9,069 | 22.7 |
| Geothermal | — | — | — | NM |
| Other | — | — | — | NM |
| Total | 38,135 | 37,836 | 46,655 | 2.3 |

See footnotes at end of tables.

Table 8. Retail Sales, Revenue, and Average Retail Price by Sector, 1994, 1998, and 2003

| Sector | 1994 | 1998 | 2003 | Annual Growth Rate 1994-2003 (Percent) | Percentage Share | | |
|---------------------------------------|--------|--------|--------|--|------------------|-------|-------|
| | | | | | 1994 | 1998 | 2003 |
| Arizona | | | | | | | |
| | | | | | | | |
| Retail Sales (thousand megawatthours) | | | | | | | |
| Residential..... | 18,212 | 21,611 | 27,742 | 4.8 | 38.5 | 38.7 | 43.3 |
| Commercial..... | 15,625 | 18,440 | 25,425 | 5.6 | 33.0 | 33.0 | 39.7 |
| Industrial..... | 11,303 | 12,549 | 10,914 | -4 | 23.9 | 22.5 | 17.0 |
| Other..... | 2,142 | 3,244 | NA | NM | 4.5 | 5.8 | NA |
| Total..... | 47,282 | 55,843 | 64,080 | 3.4 | 100.0 | 100.0 | 100.0 |
| Retail Revenue (million dollars) | | | | | | | |
| Residential..... | 1,694 | 1,875 | 2,316 | 3.5 | 45.2 | 45.8 | 49.2 |
| Commercial..... | 1,301 | 1,430 | 1,803 | 3.7 | 34.7 | 34.9 | 38.3 |
| Industrial..... | 636 | 643 | 587 | -9 | 17.0 | 15.7 | 12.5 |
| Other..... | 117 | 144 | NA | NM | 3.1 | 3.5 | NA |
| Total..... | 3,747 | 4,092 | 4,706 | 2.6 | 100.0 | 100.0 | 100.0 |
| Average Retail Price (cents/kWh) | | | | | | | |
| Residential..... | 9.30 | 8.68 | 8.35 | -1.2 | NA | NA | NA |
| Commercial..... | 8.32 | 7.76 | 7.09 | -1.8 | NA | NA | NA |
| Industrial..... | 5.63 | 5.12 | 5.37 | -5 | NA | NA | NA |
| Other..... | 5.47 | 4.43 | NA | NM | NA | NA | NA |
| Total..... | 7.93 | 7.33 | 7.34 | -9 | NA | NA | NA |

See footnotes at end of tables.

Table 9. Retail Electricity Sales Statistics, 2003

| Item | Full Service Providers | | | | | Other Providers | | Total |
|---|------------------------|---------|---------|-------------|----------|-----------------|----------|-----------|
| | Investor-Owned | Public | Federal | Cooperative | Facility | Energy | Delivery | |
| Arizona | | | | | | | | |
| Number of Entities..... | 5 | 28 | 3 | 9 | NA | NA | NA | 45 |
| Number of Retail Customers..... | 1,381,302 | 872,381 | 20,391 | 148,880 | NA | NA | NA | 2,422,954 |
| Retail Sales (thousand megawatthours) | 34,994 | 25,790 | 1,100 | 2,196 | NA | NA | NA | 64,080 |
| Percentage of Retail Sales | 54.61 | 40.25 | 1.72 | 3.43 | NA | NA | NA | 100.00 |
| Revenue from Retail Sales (million dollars) | 2,744 | 1,719 | 43 | 199 | NA | NA | NA | 4,706 |
| Percentage of Revenue..... | 58.32 | 36.53 | .92 | 4.23 | NA | NA | NA | 100.00 |
| Average Retail Price (cents/kWh)..... | 7.84 | 6.67 | 3.95 | 9.06 | NA | NA | NA | 7.34 |

Table 9 Notes: Data are shown for All Sectors. **Full Service Providers** sell bundled electricity services (e.g., both energy and delivery) to end users. Full Service Providers may purchase electricity from others (such as Independent Power Producers or other full service providers) prior to delivery. **Other Providers** sell either the energy or the delivery services, but not both. Sales volumes and customer counts shown for Other Providers refer to delivered electricity, which is a joint activity of both energy and delivery providers; for clarity, they are reported only in the Energy column in this table. The revenue shown under Other Providers represents the revenue realized from the sale of the energy and the delivery services distinctly. "Public" entities include municipalities, State power agencies, and municipal marketing authorities. "Federal" entities are either owned or financed by the Federal Government. "Cooperatives" are electric utilities legally established to be owned by and operated for the benefit of those using its service. The cooperative will generate, transmit, and/or distribute supplies of electric energy to a specified area not being serviced by another utility. "Facility" sales represent direct electricity transactions from independent generators to end use consumers.

Other Notes: NA = Not applicable; NM = Not meaningful;

W = Withheld to avoid disclosure of individual company data;

* = Value is less than half of the smallest unit of measure (e.g., for values with no decimals, the smallest unit is '1' and values under 0.5 are shown as '*').

Totals may not equal sum of components because of independent rounding;

Table 4 "Other Renewables" includes generation from municipal solid waste; Table 7 "Other" includes emissions from municipal solid waste.

Direct Use is commercial or industrial use of electricity that 1) is self-generated, 2) is produced by either the same entity that consumes the power or an affiliate, and 3) is used in direct support of a service or industrial process located within the same facility or group of facilities that houses the generating equipment. Direct use is exclusive of station use.